The EU Emission Trading Scheme (EU ETS)

Peter Zapfel

European Commission

General observations

Why did the EU choose the ETS?

Emission trading is an environmental policy instrument that allows to reach a (quantifiable and quantified) environmental policy target at least-cost

A mix of environmental and economic advantages

"Make money with cleaning up the environment!"

What is cap-and-trade?

- The cap determines the overall environmental quality
- Trade introduces a lot of flexibility across the European continent (and beyond) to achieve the environmental target

Who takes part?

- Some 11,500 installations fall under the scheme (power generators, iron and steel, refineries, cement and other building materials, pulp and paper)
- Everybody can buy and sell allowances
- You only need to open an electronic account in a registry (*the ET bank*)

What is traded where?

- The currency traded is the **allowance**
- An allowance is good for a metric tonne of carbon dioxide
- Trading is not regulated by the Directive
- It takes place between companies, with the help of market intermediaries ("over-the-counter") and at organised exchanges (Amsterdam, Paris, Vienna, Leipzig, Oslo etc.)

PointCarbon

Carbon Market Europe

March 10, 2006

EUA closing prices

	Bid	Offer	Close	Change
OTC				
EUA spot	26.10	26.15	26.13	-0.37
EUA 2006	26.75	26.80	26.78	-0.47
EUA 2007	27.65	27.70	27.68	-0.47
EUA 2008	23.65	23.70	23.68	-0.32
ECX				
CFI Q1 2006	-	-	26.10	-0.55
CFI Q4 2006	-	-	26.80	-0.45
CFI Q4 2007	-	-	27.70	-0.45
CFI Q4 2008	-	-	23.70	-0.30

Carbon prices:
spot price – 1st period 2005-07
futures price – 2nd period 2008-2012

platts

www.platts.com

Emissions Daily

Friday, March 10, 2006

European Commission expects emissions registries online 'in weeks'

Brussels — Italy, Hungary and Luxembourg should have their registries online "in the coming weeks," EU Emissions Trading Scheme chief Peter Zapfel official told Platts Wednesday.

Speaking on the sidelines of the launch of the Centre for European Policy Studies task force's report on the ETS, Zapfel

credibility towards the market," Delbeke said.

The ITL is an essential component in the international emissions trading system, allowing trading in carbon credits generated via the Kyoto Protocol's Clean Development Mechanism and Joint Implementation programs.

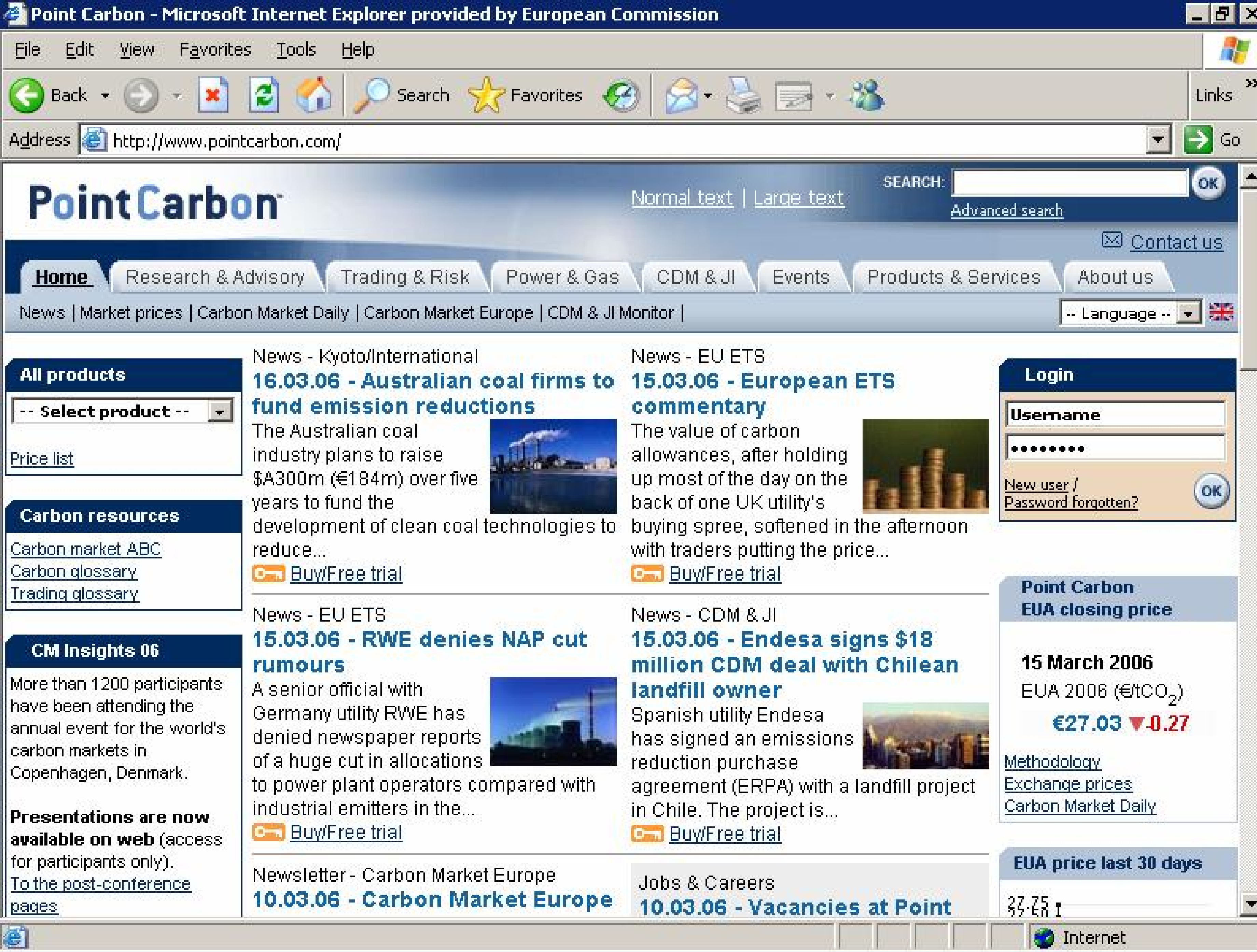
Caisse desDépôts

Tendances Carbone

Powernext carbon

The European carbon market monthly bulletin

Issue 1 • March 2006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CM Insights 06
More than 1200 participants have been attending the annual event for the world's carbon markets in Copenhagen, Denmark.
Presentations are now available on web (access for participants only).
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15 March 2006
EUA 2006 (€/tCO2)
€27.03 ▼0.27
Methodology
Exchange prices
Carbon Market Daily
EUA price last 30 days
Internet

How do the allowances get into the market?

- Mostly free of charge
- Via so-called national allocation plans (NAPs)
- Some auctioning
- Details differ from Member State to Member State

The EU ETS provisions in detail

Institutional background

- The European Union consists of 27 Member States
- Is institutionally not comparable to the US, as the center has much more limited powers than the Member States
- The EU ETS is based on a Directive – fixes objectives, but leaves details to be regulated by legal instruments at Member State level

Phasing

- Phase 1 from 2005 to 2007 – learning or trial period
- Phase 2 from 2008 to 2012 – the Kyoto period
- Consecutive 5-year phases beyond 2012
- The EU ETS rules are currently reviewed.
  - Rule changes will apply as of 2013.

In the EU ETS review …

- ... expect the phase length to be extended beyond 5 years

Coverage

- The EU ETS is a **downstream** system, i.e. the point of regulation is the **installation** releasing the emissions into the atmosphere
- It covers mainly large stationary sources in the power, steel, cement, refining, ceramics, lime and glass sector as well as combustion installations (e.g. chemical crackers, dryers) in many other sectors
- It does not cover road transport or greenhouse gas emissions other than carbon dioxide
  - Extension to aviation (flying combustion installations) is underway

Coverage

- Total coverage is some 40 % of all EU greenhouse gas emissions
- Volume-wise it is the largest trading scheme operating world-wide (the asset value of EU allowances exceeds by far e.g. the US SO_2 allowances)

In the EU ETS review …

- ... expect a limited extension of the scope
- and the possibility to remove some small installations

Cap-setting

- The cap is set in a decentralised fashion (EU cap is the sum of 27 Member State “caps”)
- It is a (EU ETS) cap within the (Kyoto) cap, not an economy-wide programme
- Member State (bottom-up) driven process with criteria defined in the Directive
- Cap is set in the NAP, the NAP is scrutinised by the European Commission

Cap-setting

- Cap in phase 1 was around 2.2 billion per year
- Cap in phase 2 is 2.08 billion per year (incl. 2 more Member States though)

In the EU ETS review …

- ... expect a major change to the way the cap is set – top-down in the Directive
- and a significantly lower cap

Allocation

- In principle same provisions as for cap-setting, i.e. decentralised process in the NAP and subject to Commission scrutiny
- Rules at European level provide for
  - A limit of 5 % of the MS total to be auctioned in phase 1 and 10 % in phase 2
  - No free allocation for installations not covered by the EU ETS
  - Not many further constraints beyond this

Allocation

- In practice this has resulted in 27 different ways of allocating allowances
- Some commonalities are more restrictive allocations for power plans and more generous for other industrial installations

In the EU ETS review …

- ... expect major changes as regards
  - More harmonised rules for free allocation
  - a move towards more and obligatory auctioning

Offset rules

- The EU ETS recognises project credits (offsets) produced in accordance with UN rules (JI and CDM credits) subject to
  - *qualitative limitations* – no nuclear and sinks credits, limited uptake of hydro credits
  - *quantitative limitations* – in phase 2 credit import is limited to 13.5 % of the cap (differentiated by Member State)
- The EU has not created free-standing offset institutions and rules, and has limited the use of JI in Member States to avoid double counting

Offset rules

In the EU ETS review …

- ... expect a continuation of recognition of UN project credits subject to qualitative and quantitative limitations

Monitoring, reporting and verification

- Each covered installation is obliged to monitor and report its annual emissions – due date for annual report is 31 March in year x+1
- The self-report is subject to third party (independent) verification
- EU-wide monitoring rules are largely based on calculation approach

In the EU ETS review …

- ... expect a strengthening of MRV rules

Compliance and enforcement

- Each installation has to surrender allowances corresponding to its verified emissions by 30 April in year x+1
  - N.B.: Free allowances for year x+1 are issued by 28 February
- Failure to surrender sufficient number of allowances leads to a financial penalty of
  - €40 (phase 1) / €100 (phase 2) per non/surrendered allowance
  - The obligation to surrender the missing allowance
  - The publication (name and shame) of non-compliant companies

Linking and the global carbon market

- The EU regards itself as the first mover in the evolution to a global carbon market
- The EU ETS can be linked to other schemes on the basis of bilateral agreement for the mutual recognition of allowances
- In 2008 Norway (as a member of the EEA) has been integrated into the EU ETS

In the EU ETS review …

- ... expect some procedural linking constraints to be lifted

Other issues

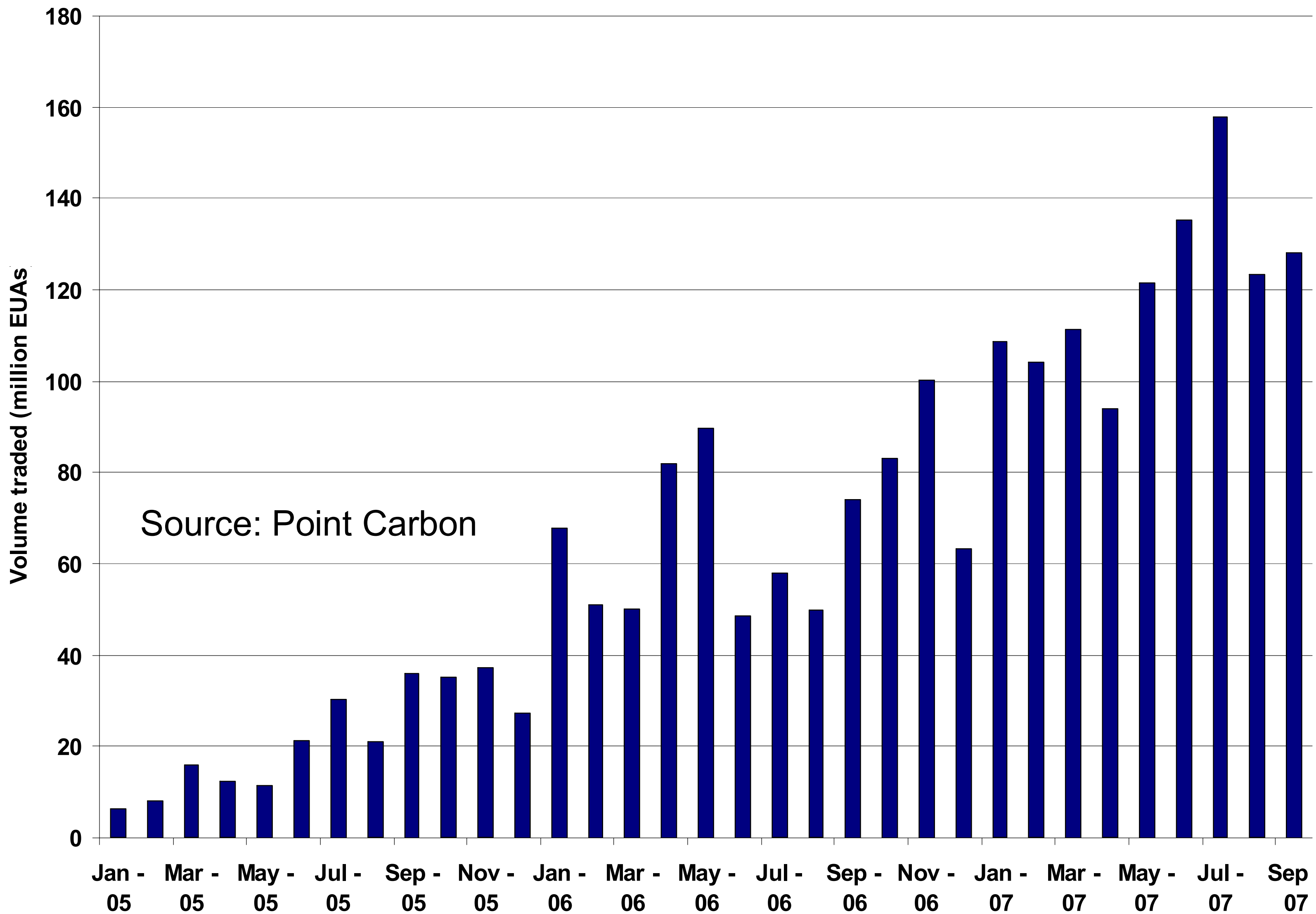
- Banking of allowances into future phases is unlimited as of phase 2
- In phase 1 it was at the discretion of individual Member States almost all Member States decided not to allow for it
- Borrowing from future phase is not allowed
- Free allowances can be held back for new entrant installations

What has happened so far?

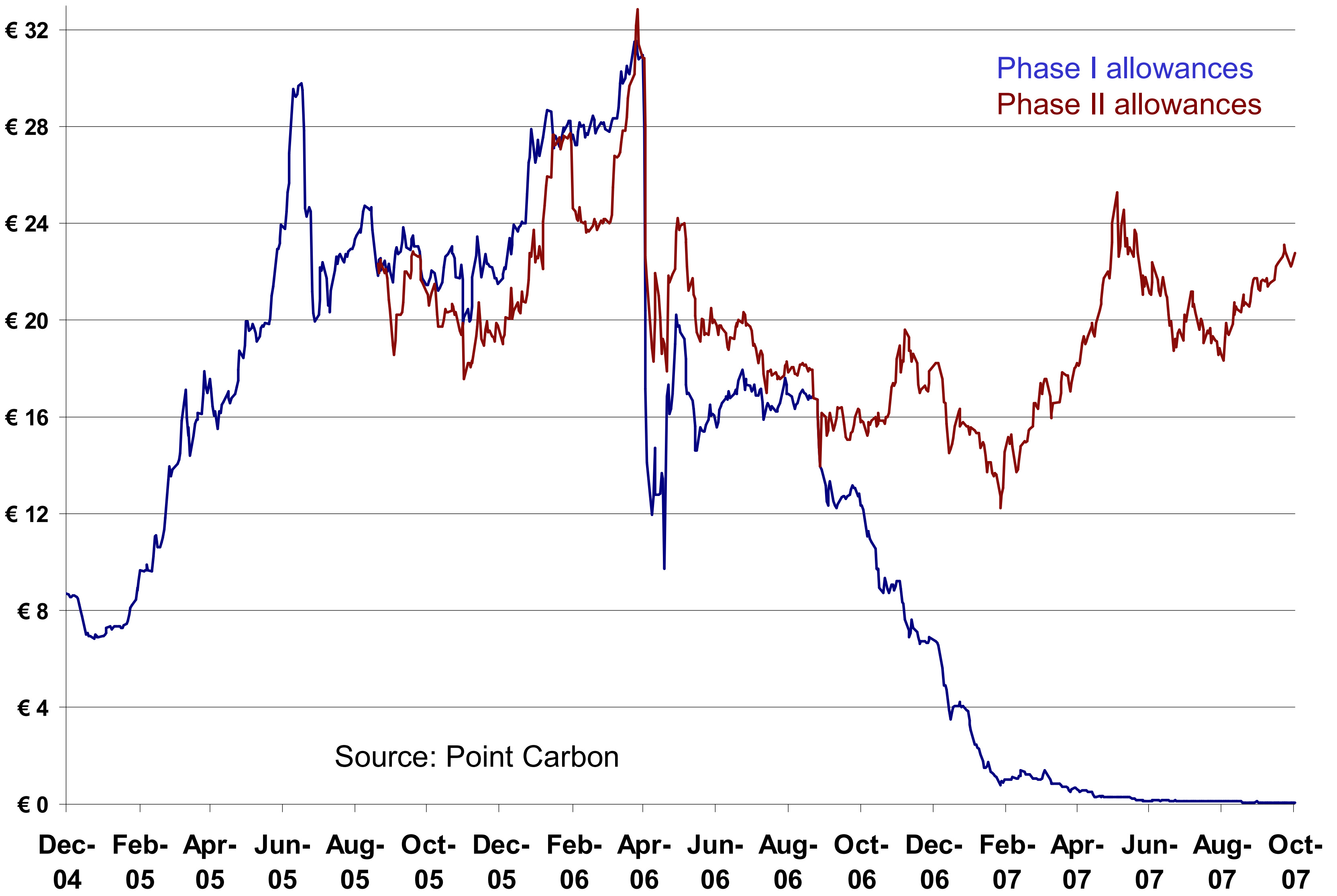
A rich learning experience

- The learning phase has proven that the EU ETS works
- The necessary infrastructure for the successful operation of a cap-and-trade was put in place and performed
- A liquid secondary market has developed
- Most allowances were allocated for free
- The cap-setting and allocation process has proven to be very complex, time-consuming and controversial

Volume of allowances traded



EU ETS Price Development



Changes in phase 2

- The phase 2 cap is much lower ensuring a robust market
- Allocation plans and rules are simpler, somewhat more auctioning is used
- MRV rules have been reviewed and improved
- Extension to aviation will apply towards the end of phase 2
- Regulators and regulated companies have entered the second phase well prepared capitalising on the experience from the learning phase
- The carbon constraint is by now an accepted reality for European business

To conclude

- The EU has put in place a functioning carbon market offering a model and rich experience to draw on for others.
- Phase 1 has been a valuable learning experience.
- Phase 2 sees many improvements.
- The EU is fully committed to a global carbon market based on robust and mandatory cap-and-trade schemes.

More info on EU climate policy: **http://europa.eu.int/comm/environment/climat/home_en.htm**

Background literature on EU ETS: **http://www.claeys-casteels.com**

RGGI Regional Greenhouse Gas Initiative
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

Regional Greenhouse Gas Initiative (RGGI): Model for a National Power Sector Cap-and-Trade Program?

January 15, 2008

Christopher Sherry
New Jersey Department of Environmental Protection

Observations on the Process

- Staff Working Group
  → Agency Heads → Governors
- Unprecedented collaboration between energy & environmental agencies
- Expert input from ISOs, environmental & energy research organizations
- Extensive stakeholder input (two-plus year regional process)

RGGI Regional Greenhouse Gas Initiative
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

Timeline

- Dec 20, 2005: MOU signed by 7 states
- Mar 23, 2006: Draft model rule released to stakeholders and public for comment
- August 15, 2006: Model rule issued
- February 2007: Massachusetts and Rhode Island sign MOU
- April 2007: Maryland signs MOU
- September 2006 - December 2008: State rulemaking to implement program

RGGI

Model Rule Overview

- Draft released March 23, 2006 for public comment
- More than 100 organizations submitted comments (1,000-plus pages)
- Significant revisions made based on public comments (requiring revisions to MOU)
- Revised model rule posted August 15, 2006
  - See http://www.rggi.org/modelrule.htm

RGGI Program Components

- Start date of January 1, 2009
- Covers fossil-fired electric generating units 25 megawatts and larger
- Two-phase cap: stabilize emissions through 2014; reduce 10% by 2018
  - (cap start point 4% above avg. 2000-2004 annual emissions)
- Comprehensive program review in 2012

RGGI Program Components

- Three-year compliance period
- Allowance banking allowed (no limit)
- Allocations:
  - – Minimum 25% allocation for Consumer Benefit and/or Strategic Energy Purpose, as defined in MOU (e.g., support end-use energy efficiency)
  - – Remaining 75% allocated at discretion of each state
  - – States comprising majority of regional emissions budget have committed to 100%

RGGI Program Components

<u>Offsets — Project-based reductions</u>

- End-use energy efficiency (building sector; excludes electric end-use efficiency)
- Afforestation
- Landfill gas capture & combustion
- Methane capture & combustion from animal manure management operations
- SF_6 leak reduction (electricity transmission & distribution sector)
- International carbon allowances & credits under limited circumstances (e.g., CDM)

RGGI Program Components

Offsets — requirements

- Limited to initial project types (to be expanded over time)
- Model rule specifies project criteria:
  - eligibility (generic and category-specific requirements, including additionality criteria)
  - quantification and verification of emissions reductions
  - independent verification
  - accreditation standards for independent verifiers

RGGI Program Components

Offsets — geographic scope

- RGGI participating states
- Offsets from other U.S. states if MOU executed with state agency to provide compliance/enforcement assistance to RGGI states
- If $10/ton trigger hit, international offsets allowed (e.g., CDM)

RGGI Regional Greenhouse Gas Initiative
An Initiative of the Northeast & Mid-Atlantic States of the U.S.

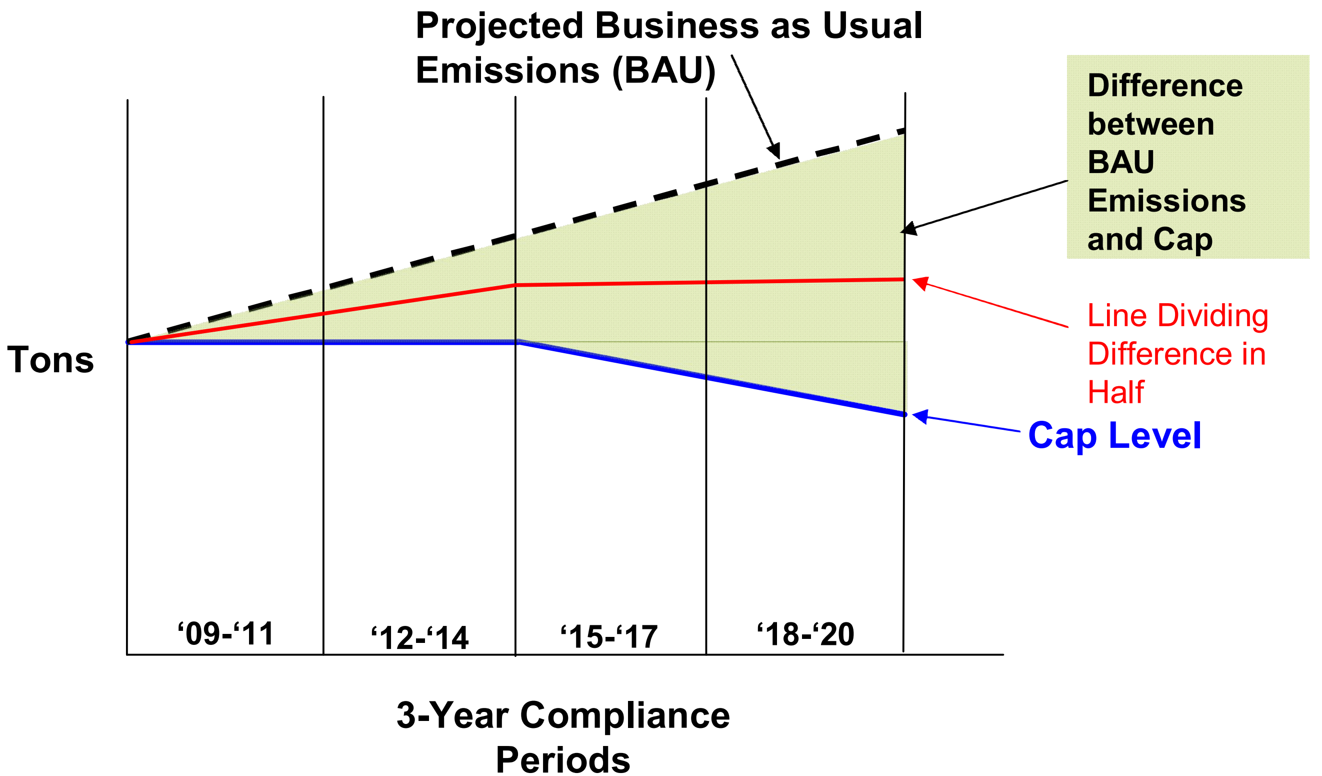
Offsets Quantitative Limit

Offsets—limit on use

- Limit applied to source compliance; no limit on issuance of offsets (creates competitive market--no limit on potential available pool of offsets)
- Each source may “cover” up to 3.3% of its total reported emissions in a compliance period with offsets
- If $7/ton price trigger hit, limit on use expands to 5% of reported emissions
- If $10/ton trigger price hit, limit on use expands to 10% of reported emissions

RGGI

Offsets Limit Explained



Limit derived based on 50% of projected avoided emissions

Innovative Design Elements

- Allowance auction: warranted due to implementation in competitive wholesale power markets
- Consumer allocation approach: allows source-based program to address electricity end-use, resulting in sectoral emissions reductions at lower cost
- Compliance flexibility: package of compliance flexibility measures designed to reduce market volatility without using price caps
  - Unlimited banking, multi-year compliance period, offset triggers
- Offset design: utilizes standardized approach to evaluating additionality through benchmarks and performance standards

RGGI